

TIMERS

EAGLE

Time-Count

CONTROLS

quality engineered

COUNTERS

TIMERS
reset
manual
repeat cycle
military

COUNTERS

**TIME DELAY
RELAYS**

STEP SWITCHES

**PACKAGE
CONTROLS**

BLISS



EAGLE SIGNAL COMPANY

MOLINE, ILLINOIS

A DIVISION OF THE GAMEWELL COMPANY, AN E. W. BLISS COMPANY SUBSIDIARY



Producers of Precision
Timing Devices for 32 Years

APPLICATION SERVICE

The Eagle family of TIME-COUNT Controls offers you a wide selection to provide the adjustability, accuracy, circuitry and reliability required for industrial control problems.

Recommendation on specific types will be given without obligation upon receipt of application details.

USES UNLIMITED

Eagle controls open or close switches according to a timed schedule (or by counts) to control valves, motors, contactors, etc. A few typical examples are:

| | |
|--------------------|----------------------|
| Molding Presses | Batch Mixing |
| Dielectric Heating | Machine Tools |
| Die Casting | Testing |
| Rubber Curing | Industrial Furnaces |
| Heat Treating | Batch Fluid Metering |

BASIC OPERATION

SINGLE CYCLE-RESET TIMERS are used to operate one or more load switches after a time delay started by a push button, limit switch or similar pilot device.

The Timer is reset back to "0" before the next operation of the pilot switch. Reset is electrically controlled. Various start and reset circuits are shown in the individual bulletins. Most types have a solenoid operated clutch which allows unit to reset to "0" when the coil is deenergized.

Where several things are to be operated in a timed sequence, a Bulletin 130 or 140 timer can be used or several single interval timers can be wired to time sequentially.

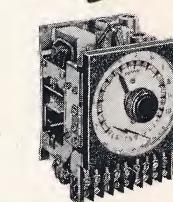
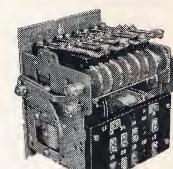
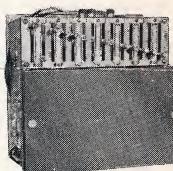
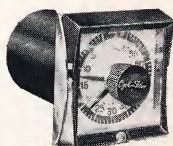
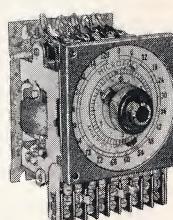
REPEAT CYCLE TIMERS are used to perform operations repeatedly such as cleaning a dust filter every two hours. All are synchronous motor driven and drive a cam shaft round and round.

EAGLE COUNTERS are used where control is by counts rather than time. For example, a grinding wheel may be fed forward after a selected number of passes. A limit switch would be used to send a count pulse to the counter for each pass.

ADDITIONAL INFORMATION AVAILABLE

Complete information on any of the products listed on these pages may be obtained by requesting the appropriate bulletin which identifies each product.

SINGLE CYCLE—RESET TIMERS



BULLETIN 110—HA MICROFLEX

20 TURN MICROMETER DIAL— ACCURACY 1/10% OF FULL SCALE

Three SPST Contacts operated at beginning or end of time period. Eagle's best general purpose timer because of its accuracy, flexibility, wide range of time settings and heavy duty construction.

BULLETIN 125—HP5 CYCL-FLEX

NEW "PLUG-IN" TIMER WITH FOUR LOAD SWITCHES

Two switches operate instantly when timer is energized. Two other switches operate after an adjustable time delay period. Timer plugs into its case, which is permanently wired.

BULLETIN 130—HM MULTIFLEX

PROGRAMS 1 TO 6 CIRCUITS— EACH ON-OFF TIME ADJUSTABLE

Each circuit is tripped closed and open according to settings on the linear scale. External pilot switch starts each programmed sequence. Verniers for more accurate time settings are optional.

BULLETIN 140—HO POLYFLEX

PROGRAMS 1 TO 11 CIRCUITS— CAM TIMING ADJUSTMENTS

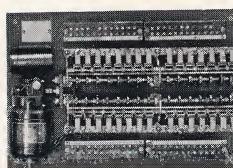
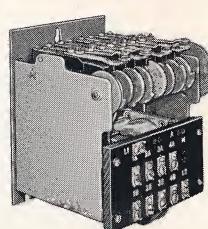
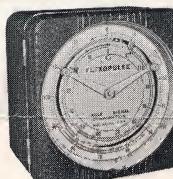
Similar to Multiflex except used where a calibrated time scale for settings is not required. Each ON and OFF circuit action is determined by cam setting.

BULLETIN 150—CE ELECTROFLEX

ELECTRONIC TIMING—FAST TIMING—FAST RESET

Highly accurate and stable timing circuit for short intervals. Dial is calibrated in seconds for direct reading in time. A holding circuit and three load circuit actions are provided.

REPEAT CYCLE TIMERS



BULLETIN 320—HG FLEXOPULSE

REPEATS ON-OFF SETTING—6" DIAL

One side of SPDT switch closed for time set by "ON" arm; the other side for time set by "OFF" arm. Continuously repeats "ON-OFF" action.

BULLETIN 330—HF POLYPULSE

PROGRAMS 1 TO 12 CIRCUITS— CAM ADJUSTMENT—GEAR CHANGE

A synchronous motor drives cam shaft round and round. Change gears provide 1 to 6 speed range. A spiral cam provides knife edge tripping point for each ON-OFF action.

BULLETIN 336—HL REPEAT TIMER

PROGRAMS 1 TO 30 CIRCUITS— SPEEDS 1 TO 600 RPM

Designed for long life at speeds up to 600 cycles per minute. Heavy duty synchronous motor drive. Cams control switch operation. Available without timing motor as a cam limit switch.

CONTROL TIMERS



APPLICATION DATA

| Bulletin Number | Time Range | Type of Adjustment | Coil Volts* | Switch Amps. | No. of Switches |
|-----------------|--|--------------------------|-------------------|---------------|--------------------------|
| 110 (HA-) | 20 s, 120 s, 5 m, 20 m, 60 m, 120 m, 5 h, 20 h, 60 h | 4" Dial (20 Turn) | 115 230 440 | 15 10 5 | 3 SPST |
| 125 (HP5-) | 10 s, 30 s, 60 s, 150 s, 5 m, 10 m, 30 m, 60 m, 150 m, 5 h, 10 h, 60 h | 3" Dial | 115 230 | 10 5 | 4 |
| 130 (HM-) | 30 s, 60 s, 120 s, 5 m, 10 m, 30 m, 60 m, 120 m, 5 h | Calibrated ON-OFF Slides | 115 230 440 | 10 5 3 | 1 to 7 SPST |
| 140 (HO-) | 60 s, 5 m, 10 m, 15 m, 30 m, 75 m, 2½ h, 5 h, 15 h | Cams with Set Screws | 115 230 440 | 10 5 3 | 1 to 12 SPST |
| 150 (CE-) | 1 and 10 sec. Dual Range | 4" Dial | 115 | 5 | 3 |
| 160 (AF3-) | 180 s | Thumb Screw | 115 230 440 | 20 10 5 | 1 SPDT Optional Aux. Sw. |
| 165 (AF4-) | 60 s | Adjusting Nut | 115 230 | 15 7½ | 1 SPDT |
| 170 (HD-) | 55 s, 5½ m, 27½ m, 55 m. | 1" Dial | 115 230 | 10 5 | 1 SPDT |
| 180 (HE-) | 120 s, 5 m, 20 m, 60 m, 120 m, 5 h, 20 h, 60 h, 120 h | 4" Dial | 115 230 440 | 15 10 5 | 3 SPST |
| 320 (HG-) | 60 s, 120 s, 5 m, 20 m, 60 m, 120 m, 5 h, 20 h | 6" Dial | 115 230 440 | 10 5 3 | 1 SPDT |
| 330 (HF-) | 10 sec. or slower as required | Cams and Gear Change | 115 230 440 | 10 5 3 | 1 to 12 SPST |
| 336 (HL-) | 1 to 600 RPM as required | Cams and Gear Change | 115 | 15 | 1 to 30 SPST |
| 340 (HF-) | 10 sec. or slower as required | Cams and Gear Change | 115 230 | 10 5 | 1 to 12 SPDT |
| 510 (AB-) | 5 m, 30 m, 60 m, 5 h, 10 h, 30 h | Dial | 115 230 | 15 10 | 1 SPDT |

* Available for 50 or 60 cycle.

MANUAL



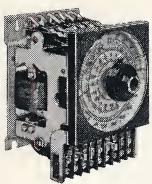
BULLETIN 510—AB MANUFLEX

SPDT SWITCH—ON FOR PRESET TIME

Timer starts and switch is actuated when pointer is manually turned to time setting. Synchronous timing motor returns pointer to "0" and trips switch open.



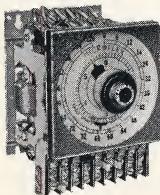
CONTROL COUNTERS



BULLETIN 720— HZ MICROFLEX COUNTER ELECTRIC COUNTING AND RESET— SPRING RESET IN 3/4 SEC.

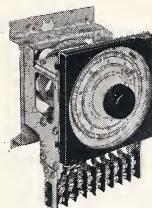
Three SPST contacts are operated at beginning of or after preset number of counts. Clutch coil controls reset making counting and reset electrically controlled for automatic processes.

BULLETIN 725—HZ150 Cycl-Flex Counter—a companion plug-in unit matching the Bul. 125 Cycl-Flex Timer—80 count dial.



BULLETIN 730— HZ6 SHAFT DRIVEN MICROFLEX REVOLUTION COUNTER

Same as above except provided with shaft extending through rear of Microflex for mechanical drive. Dial is adjustable for number of revolutions to trip contacts. Accuracy 1/10% of full range.



BULLETIN 740— HZ200 ADD-SUBTRACT COUNTER

SEPARATE ADD AND SUBTRACT COILS— MAXIMUM COUNT ADJUSTABLE TO 99

Counter responds to ADD and SUBTRACT pulses to move forward or backward between a "0" limit and an adjustable maximum limit. One switch is actuated when Counter is at "0", another switch operates at its maximum limit.

| Bulletin Number | Count Range | Type of Adjustment | Coil Volts | Switch Amps | No. of Switches |
|-----------------|--|--------------------|-------------------|---------------|-----------------|
| 720 (HZ-) | 19 400 1000 | 4" Dial | 115 230 440 | 15 10 5 | 3 SPST |
| 725 (HZ150) | 80 | 3" Dial | 115 230 | 10 5 | 2 SPDT |
| 730 (HZ6-) | 20 120 400 600 1200 (Revolutions) | 4" Dial | 115 230 440 | 15 10 5 | 3 SPST |
| 740 (HZ200) | 99 | 4" Dial | 115 | 10 | 2 SPDT |
| 780 (MT-) | 2 to 16 | Cam Breakout | 115 230 | 10 5 | 1 to 19 SPST |

APPLICATION DATA

SALES REPRESENTATIVES

ALABAMA, Birmingham 9
McConnell Sales & Engr. Co.,
Box 5825, Homewood Branch
(1661—28th Ave. S.)
Tremont 1-3501

★ CALIFORNIA, Los Angeles 65
Hundley Company
3282 Fletcher Drive
Clinton 5-7111

★ CALIFORNIA, San Francisco 10
Campbell & George Co.
1601 Cortland Avenue
Mission 8-1236

COLORADO, Denver
Peterson Company
4949 Colorado Blvd.
Dexter 3-5434

CONNECTICUT, Hartford 6
Gibson Engineering Co.
141 Washington Street
Chapel 7-6919

FLORIDA, Jacksonville 2
Ward Engineering Co., Inc.
2727 Phyllis St.
Evergreen 8-7656

FLORIDA, Orlando
Ward Engineering Co., Inc.
P.O. Box 5545
(1015 W. Central Ave.)
Garden 3-4295

★ GEORGIA, Atlanta
Thomas B. Combs Co.
1823 Gordon Road, S. W.
Plaza 8-5516

★ ILLINOIS, Chicago
Kelburn Engineering Co.
3136 Clarence Ave., Berwyn
Stanley 8-6485, Bishop 2-1672

IOWA, Des Moines 9
Donald Corporation
313—East 7th Street
CH 3-7623

LOUISIANA, New Orleans 25
Thompson Equipment Co.
Box 13063, 4020 Thalia St.
Magnolia 3885

MARYLAND, Baltimore 2
Harry M. Wood & Co., Inc.
124 Light Street
Mulberry 5-4643

★ MASSACHUSETTS, Boston 15
Gibson Engineering Co.
1018 Commonwealth Ave.
Aspinwall 7-5074

★ MICHIGAN, Detroit 27
Ralph D. Ernest Assoc.
12818 Puritan Ave.
University 1-7311

★ MINNESOTA, St. Paul
R. A. Lundbeck Co.
1900 University Ave.
Midway 6-4523

MISSOURI, Kansas City 9
Timer & Equipment Co.
3034 Holmes St.
Westport 1-7110

MISSOURI, Berkeley
Richter Equipment Co.
Box 271, 6945 Berkridge Ct.
Jackson 4-4718

★ NEW JERSEY, Hackensack
C. H. Ribble Company
31 di Carolis Court
Diamond 2-2602

NEW YORK, Buffalo 2
Munhall Company
170 Franklin St.
TL 6-1212

OHIO, CLEVELAND 3
J. L. Finnicum & Assoc.
4500 Euclid Ave.
Henderson 1-7477

★ OHIO, Dayton 2

Thal Mor Associates, Inc.
219 Washington St.
Baldwin 6-3481

OKLAHOMA, Tulsa 3
C. B. Anderson Electric Co.
Box 676 (6708 E. 13th St.)
Gibson 7-1123

OREGON, Portland 11
Branon & Leeland Instr. Co.
6019 N. E. Union Ave.
Butler 5-5205

PENNSYLVANIA, Pittsburgh 8
Edgar M. Moore & Company
6964 Thomas Blvd.
Emerson 1-8780

★ PENNSYLVANIA, Upper Darby
W. F. Keegan & Co.
Box 146 (771 Shielbourne Rd.)
Flanders 2-1125

TEXAS, Dallas 1
Lynn Elliott Company
408 Fidelity Union Life Bldg.
Riverside 8-7788

TEXAS, Houston 2
Lynn Elliott Company
371 M & M Building
Capitol 4-9715

UTAH, Salt Lake City 17
Nabaum & Company, Inc.
4777 S. 13th East
Phone: CR 7-0459

★ WASHINGTON, Seattle 1
Branom & Leeland Instr. Co.
2136 Second Ave.
Main 2-7320

★ CANADA
Davis Automatic Controls, Ltd.
Box 160, Islington, Ont.
Belmont 3-3211

EXPORT REPRESENTATIVE
Rocke International Corp.
13 East 40th Street
New York 16, New York
Murray Hill 9-0200

★ Timers Available From Local Stock

BLISS



EAGLE SIGNAL COMPANY

MOLINE, ILLINOIS

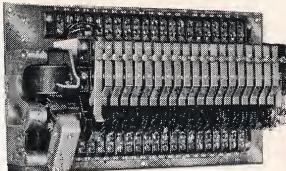
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EXAMPLES OF EAGLE'S VERSATILITY . . .

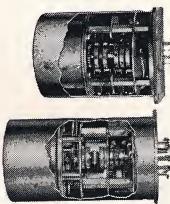
STEP SWITCHES



Bulletin 780—MT Series

Cam shaft is stepped around by pulses from a remote pilot switch. Each circuit is controlled by a cam which can close circuit for 1 or more steps. Self stepping contact available for self advance.

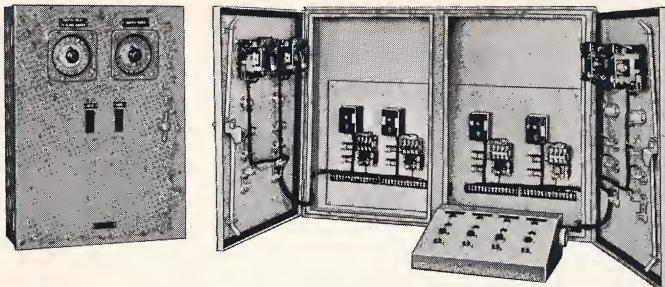
HERMETIC SEALED TIMERS



Bulletin 800 Military Type

Timers are custom made from standard basic parts to perform timing functions for ground support equipment, aircraft or missiles. Escapements, electric motors, or transistors are used for timing.

PACKAGED CONTROLS—Bulletin 1030



Combinations of timers, counters and other components are often needed to do the control job. A complete "package" designed for your process can be purchased from Eagle.

BLISS**EAGLE SIGNAL**

A DIVISION OF THE E. W. BLISS COMPANY

736 FEDERAL STREET / DAVENPORT, IOWA 52803

Phone 324-1361 Area Code 319

Cable Address EAGLESIG

PLEASE REPLY TO:

C. H. Ribble Company
31 Di Carolis Court
Hackensack, New Jersey 07602
Ph: 201-342-2602

Mr. T.H.Nelson, Sys. Engr.
Interlocking Sys. Co.
Box 1546
Poughkeepsie, N.Y. 12602

Gentlemen:

Our factory advises of your inquiry for EAGLE products.

As the local EAGLE office, we offer our services to you in the application of Timers, Counters and Relays in your machinery or processes.

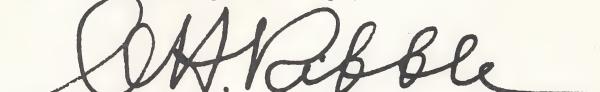
EAGLE devices are the "heart" of automatic control systems. Their use results in production SPEED-UP, cost REDUCTION and improved, uniform QUALITY.

Quantity orders of EAGLE Timers and Counters can be shipped from our newly built expanded warehouse. To complete our service to you, a repair department, staffed by factory-trained personnel, offers prompt service in keeping EAGLE products in tip-top shape.

EAGLE AUTOMATIC TIME and COUNT units range from heavy duty, industrial to light duty, commercial qualities. Your needs can be filled exactly and economically.

Please give our skilled engineers the opportunity to recommend the EAGLE solution to your automation problem.

Yours very truly,


C.H. Ribble,
New York Manager.